CLAIMS

What is claimed is:

1. Apparatus for treating a target tissue sensitive to changes in target tissue temperature comprising:

means for directing a plurality of energy pulses toward said target tissue; and

means for controlling said plurality of energy pulses to assist in pulsating said target tissue temperature over a predetermined period of time.

2. Apparatus according to Claim 1, wherein said pulsating target tissue temperature periodically increases from a first temperature T_1 to a second temperature T_2 for a first period t_1 and then decreases to substantially said first temperature T_1.

3. Apparatus according to Claim 1, wherein said pulsating target tissue temperature aperiodically increases from a first temperature T_1 to a second temperature T_2 for a first period t_1 and then decreases to substantially said first temperature T_1.

4. Apparatus according to Claim 1, wherein said pulsating target tissue temperature is substantially uniform in temperature excursion and non-uniform in pulse spacing or period between pulses.

5. Apparatus according to Claim 1, wherein said pulsating target tissue temperature is non-uniform in temperature excursion and substantially uniform in pulse spacing or period between pulses.

6. Apparatus according to Claim 1, wherein said means for directing a plurality of energy pulses include a radio frequency generator.

7. Apparatus according to Claim 1, wherein said means for directing a plurality of energy pulsed include an ultrasonic generator.

8. Apparatus according to Claim 1, wherein said means for directing a plurality of energy pulses include a container of temperature-controlled fluid in thermal contact with said target tissue.

9. Apparatus according to Claim 1, wherein said means for controlling said plurality of energy pulses include a computer-driven sequencer.

10. Apparatus according to Claim 1, wherein said means for controlling said plurality of energy pulses include a waveform control device.

11. Apparatus according to Claim 1, wherein said means for controlling said plurality of energy pulses include a temperature sensor and monitor.

12. Apparatus according to Claim 1, wherein said means for directing a plurality of energy pulses include first and second planar electrodes.

13. Apparatus according to Claim 1, wherein said means for directing a plurality of energy pulses include a cylindrical, inflatable tube having electrodes.

14. Apparatus according to Claim 1, wherein said means for directing a plurality of energy pulses include a sphere having electrodes.

15. Apparatus for treating a target tissue containing cells sensitive to temperature change comprising:

means for generating a plurality of energy pulses; and

means for controlling said energy pulses to provide a repetitive increase and decrease in temperature of said target tissue over a predetermined time period.

16. Apparatus according to Claim 15, wherein said repetitive increase and decrease of said target tissue temperature is periodic.

17. Apparatus according to Claim 15, wherein said repetitive increase and decrease of said target tissue temperature is aperiodic.

18. Apparatus according to Claim 15, wherein said increase and decrease of said target tissue temperature is uniform.

19. Apparatus according to Claim 15, wherein said increase and decrease of said target tissue temperature is non-uniform.

20. Apparatus for treating tissue cells containing one or more defective proteins comprising:

means for alternately heating and cooling said tissue cells with specific timing for each temperature excursion and specific temperatures for each temperature excursion.

21. Apparatus according to Claim 20, wherein said specific timing for each temperature excursion and said specific temperature for each temperature excursion are selected to cause necrosis of said tissue cells containing said defective proteins.

22. Apparatus according to Claim 20, wherein said means for alternately heating and cooling said tissue cells with specific timing for each temperature excursion and specific temperatures for each temperature excursion are selected to cause necrosis of cells containing a defective protein.

23. A method for treating target tissue sensitive to changes in target tissue temperature comprising the steps of:

directing a plurality of energy pulses toward said target tissue; and

pulsating said target tissue temperature over a predetermined period of time.